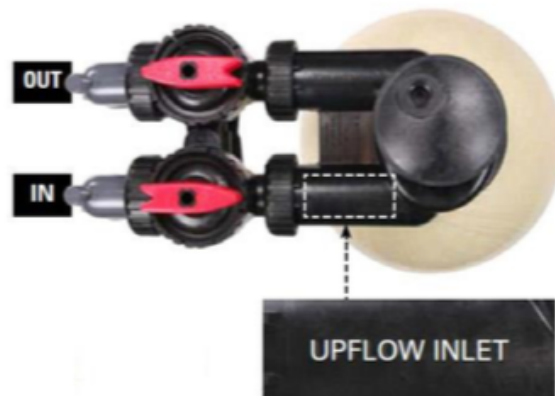

Upflow Neutralizer Installation & Startup Guide

Pre-Installation

1. Review your packing list and make sure you have received all the parts before beginning installation.
2. If you are going to be turning off the water to the house and you have an electric water heater, shut off the power to the water heater before beginning installation in case the water heater is accidentally drained.
3. Pick a suitable location for your filter system on a dry level spot where it won't be exposed to freezing temperatures. A minimum of 20 PSI is required. Maximum pressure is 90 PSI.
4. Get all of your plumbing parts together before beginning installation. Installation typically takes 3 to 5 hours. However, after installation the Calcite Neutralizer Filter must be allowed to run through a complete backwash and rinse cycle.
5. After the system is installed and running, your water may be discolored or full of sediment or rust, particularly if this is older or corroded piping. This typically clears up over a day or two.

Best Practices for Piping & Drain Installation

1. If you are setting up your filter to be an Upflow filter, connect the **IN pipe to the Upflow Inlet** (on the right side when facing the pipe connectors), and then connect the **Out pipe to the Downflow Inlet (diagram below)**. The water should flow down the distributor tube and up through the filter media. The arrows may be facing either direction, so do not rely on the arrows.



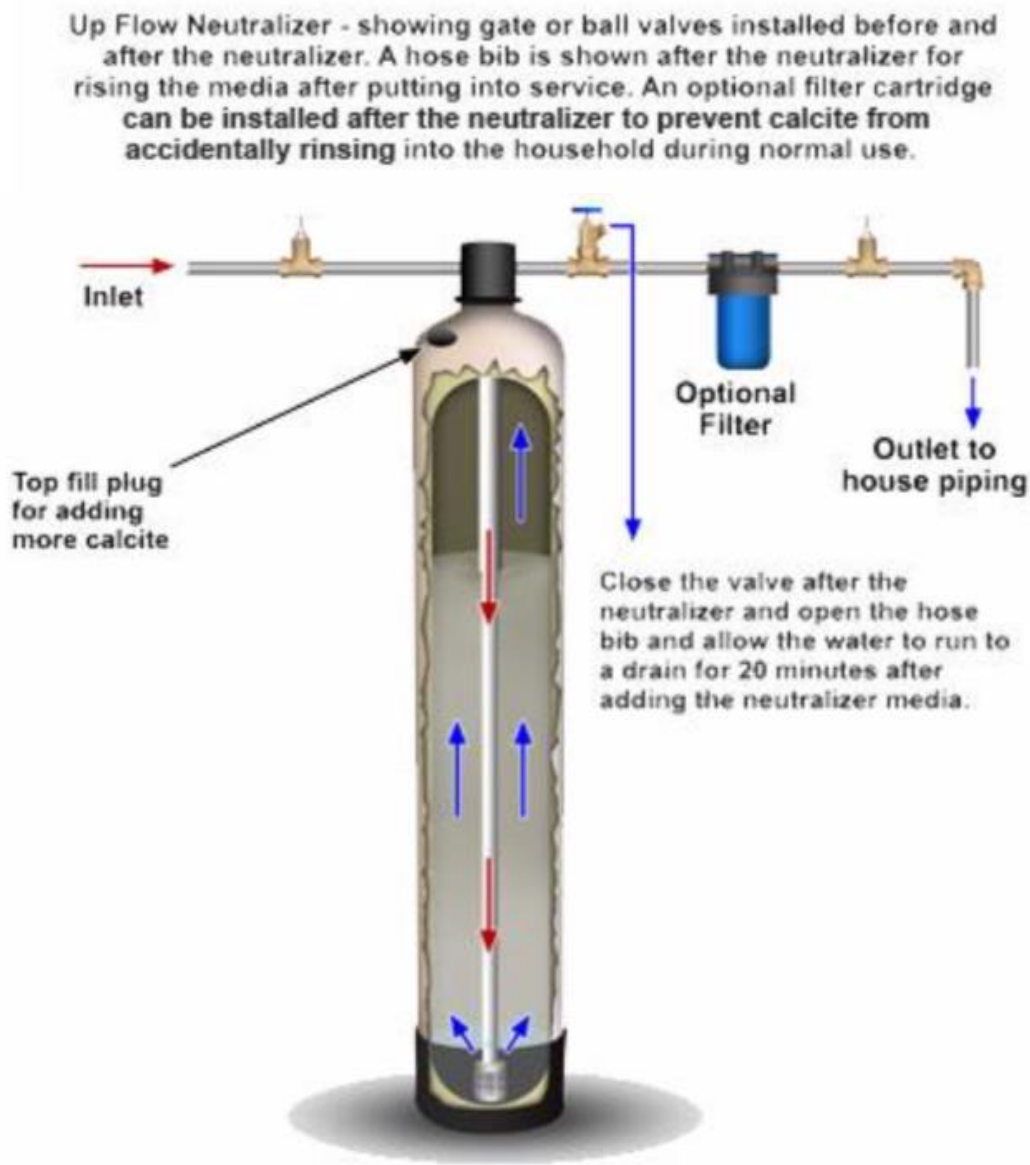
2. Make sure there is a working gate or ball valve before the Neutralizer filter and also one after. Pressure gauges are optional and perhaps not necessary but a hose bib (which is a faucet that you can attach a garden hose to) is strongly recommended after the neutralizer filter and before the second ball valve. This makes it easy to rinse your new neutralizer filter on start-up and gives you a place to test the water before it enters your household plumbing. It also makes it much easier to perform maintenance, including adding more calcite media in the future, which must be done once a year for a typical residential calcite neutralizer.
3. If you will be using copper piping, do not sweat the copper pipe directly on to the neutralizer. Avoid heating the plastic.

4. If you have copper pipe before the calcite neutralizer and it is too difficult to change it, you may still experience some copper staining of fixtures and have a copper residual in the water. We recommend PEX or PVC pipe up to the neutralizer and then copper after it, if you have copper plumbing.

How Your Neutralizer Works

See Fig 1. In your neutralizer water enters the top of the tank and flows down through the distributor tube and up through the calcite media.

Figure 1 - Calcite neutralizer tank diagram

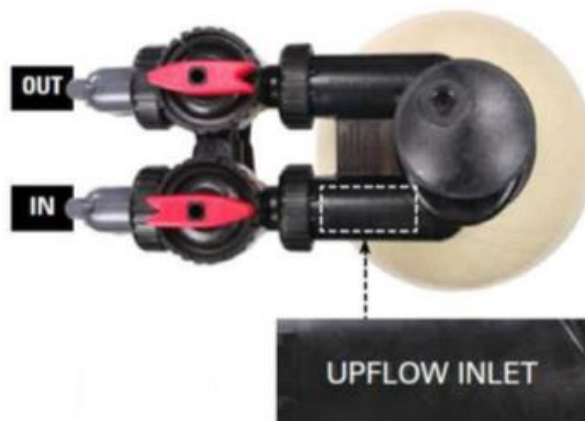


Assembly and Installation Instructions

1. Unscrew the top fitting on the tank by hand if it was shipped screwed on. Place the distributor tube in the tank if not already inside. If not already done, make sure the blue cap is on top of the distributor tube, or wrap the top of distributor tube with electrical or duct tape. You do not want calcite or corosex (if you are using a blend of media) to go down the distributor tube.



2. If you received Corosex in your shipment (used with pH's below 6), you can now mix it together with the Calcite before adding the blend into the tank. It does not have to be exact, but we recommend mixing them together in a bucket, and adding into the tank until it is 2/3rds full, do not fill past 2/3rds.
3. Next add the Calcite media or Calcite/Corosex blend. The tank will be about 2/3rds full of media. Do not fill more than 2/3rds full, even if there is some left over. You can save that for when it is time to refill the tank with more Calcite.
4. Remove cap or tape from the top of the distributor tube. Be careful not to pull up the distributor tube when removing cap or tape.
5. If possible at this point, fill the tank completely with water. This will allow the neutralizer media to settle and eliminate the need of "purging" the air out of the tank later.
6. Attach optional plastic top screen to the under-side of the in-out head. It is a funnel-shaped plastic screen that snaps on to the control valve and prevents media from escaping from the neutralizer.
7. Connect the **IN pipe to the Upflow Inlet** (on the right side when facing the pipe connectors), and then connect the **Out pipe to the Downflow Inlet** (diagram below).



8. With the system on bypass, and the valve after the neutralizer closed, open the hose bib tap after the neutralizer and allow water to run for a couple of minutes to flush out any materials used in the piping.
9. Now take the neutralizer off bypass. With the valve after the neutralizer closed, allow the up-flow neutralizer to flush for 10 to 20 minutes through the hose bib. This is necessary to flush out calcite fines and dust. The water will be milky white at first.

What to Do If Your Filter Tank Does Not Sit Level on the Floor

Your black filter tank base is not glued to the bottom of your tank. Occasionally tank bases will become crooked during shipment. If you find that that your tank does not sit level on the floor, you can easily adjust it by holding the empty tank and rapping it on a concrete or solid floor once or twice in order to level it.

Maintaining Your Neutralizer Filter System

1. Check the pH before and after the neutralizer. You want to have a pH of at least 7.0 after the neutralizer filter.
2. If the pH drops below 7, check the depth of the calcite media by shining a bright light through the tank. Your tank should be about 2/3rds full of media. When the media level drops to ½ full, it is time to add more calcite or calcite blend media if you are using a blend.
3. For most residential applications add calcite media once or twice a year. Do not fill more than 3/4ths full, about 2/3 full is best.

How to Add Calcite Media to the Neutralizer Filter

CALCITE MEDIA CONTAINS DUST.

USE PAPER MASK OR VENTILATE TO AVOID BREATHING DUST.

1. Begin by putting the neutralizer filter on bypass, or turning the water pressure off before the neutralizer.
 2. Open a hose bib or faucet after the neutralizer to de-pressurize the neutralizer tank.
 3. Unscrew the media fill plug with a channel lock or pliers and, using a tube or hose, siphon 2 to 3 gallons of water out of the filter tank.
 4. If you don't siphon water out, when you add filter media, water will flow out the fill plug hole and flow onto the floor. If water on the floor is OK then you do not have to siphon water out first before pouring calcite media into top fill plug hole.
 5. Add neutralizer filter media until the tank is 2/3rds full. Do not over-fill; be sure to leave at least 12" of free space above media to allow room for the media to expand during a backwash.
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6. Put the top fill plug back in. You can lubricate the threads with some vegetable oil or silicone grease, but do not use Teflon tape or plumbing grease.
 7. Turn the water back on, and run the water out of a hose bib or faucet after the neutralizer until it is clear. This can take 10 – 20 minutes. The water will be milky white at first.

When to Use Calcite Blends

If the water pH is less than 6.0, calcite alone may not be enough to bring the pH up to the desired pH range of 7.0 to 7.8. In this case a blend of Calcite and Corosex should be used. Calcite is a calcium media consisting of calcium carbonate that will raise the pH slowly. Calcite will not raise the pH much over 7.2. Corosex is a natural mineral media consisting of magnesium oxide. It reacts much faster and raises the pH much higher than Calcite alone.

Corosex is almost never used alone as it will raise the pH too high and in some cases will over-correct and create a highly basic (high pH) condition. It can also cement together like concrete in the neutralizer tank if you add too much and there is not sufficient backwash.

For most residential well applications a 90% calcite and 10% Corosex blend is best. However, in some cases an 80%/20% mix or even a 70%/30% is used. It is always better to start with a 90%/10% mix at first as this solves the majority of low pH problems in the range of 4.5 to 5.9.

- For a pH of 6.0 to 6.9, use calcite alone.
- For pH of 4.5 to 5.9, use a blend of Calcite and Corosex (usually 90% calcite and 10% Corosex).